

**IN THE CLAIMS**

1. (currently amended) A computer-implemented method of assigning ~~weighting weights coefficients~~ to measurements of a ~~succession~~ selection of stars, the measurements being acquired by a star sensor connected to a client device, in order to determine a spatial orientation, the method comprising the steps of giving higher or lower preference to refreshment, by at least one or both of the star sensor and its client device, of

a the positions of the measurements with at least one or both of the highest weights and/or of

the stars on which these measurements are made by the star sensor and/or its client device,

so as to displace, within a frequency spectrum, a part of the a power of the an error associated with the set of star measurements of the selection of stars. within the frequency spectrum.

2. (currently amended) The method according to claim 1, ~~characterised in that~~ wherein in the a calculation of the weights of the measurements in a current selection of stars, the ~~reinforcement higher or attenuation lower preference~~ takes place as a result of applying a distance weight

associated with each measurement in the current selection and

characteristic of an average distance between

firstly on the one hand the said measurement and

secondly on the other hand the measurements for the previous selections of stars and the other measurements in the current selection of stars.

3. (currently amended) The method according to claim 2, ~~characterised in that~~ wherein the distance weight associated with each the current selection measurement in the current selection

is calculated as a weighted average of the ~~corresponding~~ distances, each distance corresponding to the distance between  
firstly on the one hand a first measurement corresponding  
to the said measurement, in the current selection of stars and  
secondly on the other hand a second measurement, each  
second measurement being respectively the measurements for the  
previous selections of stars and or the other measurements in  
the current selection.

4. (currently amended) The method according to claim 3, ~~characterised in that~~wherein the distance weighting coefficient associated with ~~the a~~ distance between  
a first measurement in the current selection and  
a second measurement in a previous selection of stars or  
another measurement in the current selection of stars, includes  
a memory coefficient associated with at least one or both  
of the said second measurement, and/or  
the weight of the second measurement if ~~it the~~ the second  
measurement belongs to a previous selection of stars, or a  
temporary weight if ~~it the~~ the second measurement belongs to the  
current selection of stars.

5. (currently amended) The method according to claim 3, ~~characterised in that~~wherein the distance weight is ~~calculation~~  
calculated by combining the  
an angular distance between the first measurement two and  
the second measurements, and  
an identity distance that depends on the difference in  
nature of ~~the two~~ stars for which the first measurement and the  
second measurements are being made.

6. (currently amended) The method according to claim 4, ~~characterised in that~~wherein ~~the~~ a memory coefficient Mem of a measurement  $m_i$  at time  $t$  is defined using the following formula:

$$Mem(m_i/t) = \mu \times \Pi^{-[t-T(m_i)]}, \text{ where}$$

- $T(m_k)$  is a validity date of a measurement  $m_k$
- $\mu$  and  $\Pi$  are constants.

7. (currently amended) The method according to claim 2, ~~characterised in that~~wherein a charge Cha is assigned to each star for which a measurement is made, the charge Cha summarising the weights assigned to the measurements made on the said star in the past, ~~attenuated by the passage of time.~~

8. (currently amended) The method according to claim 7, ~~characterised in that~~wherein the charge Cha of the a star  $e_p$  is defined at an instant  $T$  by the following formula:

$$Cha(e_p, T) = \sum_{\substack{i=P+1 \\ E(m_i)=e_p}}^N [A(m_i) \times Mem(m_i/T)]$$

where  $Mem(m_i/T)$  is ~~the~~ a memory coefficient of ~~the~~ a measurement  $m_i$  at time  $T$ ,  $E(m_i)$  is ~~the~~ a star on which the measurement  $m_i$  is made, and  $A(m_i)$  is the weight of the measurement ~~weight~~  $m_i$ .

9. (currently amended) The method according to claim 7, ~~characterised in that~~wherein the charge Cha, associated with a star ~~to~~ for which a measurement in the current selection is ~~related~~made, is updated before it is used in the calculation of the weight associated with ~~a~~ the said measurement, the update being made using a coefficient that depends on ~~the~~ a difference  $\Delta$  between ~~the~~ a current date and ~~the~~ a last date of a previous update date ~~for this~~ the said charge Cha.

10. (currently amended) The method according to claim 9, ~~characterised in that~~ wherein the update of the charge Cha is made by multiplying the previous update of the charge Cha by a ~~the coefficient may be a factor and is in the form  $\Pi^{-\Delta}$ , where  $\Pi$  is a constant.~~

11. (currently amended) The method according to claim 9, ~~characterised in that~~ wherein the update of the charge Cha is made by adding a coefficient  $-\rho x_{\Delta}$  where  $\rho$  is a constant, to the previous update of the charge Cha ~~the coefficient is additive and is in the form  $-\rho x_{\Delta}$ , where  $\rho$  is a constant.~~

12. (currently amended) The method according to claim 7, ~~characterised in that~~ wherein, after calculating the weight associated with a measurement in the current selection, the charge Cha associated with the star for which this measurement was made, is updated.

13. (currently amended) The method according to claim 12, ~~characterised in that~~ wherein the update of the charge Cha is made by adding the weight associated with the measurement.

14. (currently amended) The method according to claim ~~12~~, ~~characterised in that~~ wherein a random function ~~Gaussian variable is used in the calculation of the weights.~~

15. (currently amended) The method according to claim 2, ~~characterised in that~~ wherein the calculation of the distance weight is iterated with a temporary weight associated with ~~for~~ measurements in the current selection, the distance weight being used to calculate a new the temporary weight itself ~~used to~~

calculate a new distance weight ~~and so on~~, the iterations being made until convergence towards a final distance weight.

16. (Cancelled)

17. (currently amended) The method according to claim 1, ~~characterised in that~~wherein giving higher preference to the refreshment rate of stars with a large high weight is increased made by increasing the a frequency of measurements of the star sensor and/or the client device.

18. (currently amended) The method according to claim 1, ~~characterised in that~~wherein the a dispersion of the a complete new selection is used directly in the weights, using processing means related to the sensor and/or client device.

19. (currently amended) The method according to claim 18, ~~characterised in that~~wherein the processing means related to the sensor and/or the client device comprise a neural network ~~used to directly affect dispersion in the weights.~~

20. (cancelled)

21. (cancelled)

22. (New) The method according to claim 2, wherein a random uniform variable is used in the calculation of the weights.